

## REMARKS

Applicant requests favorable reconsideration and allowance of this application in view of the foregoing amendments and the following remarks.

Claims 1, 3-7, and 9-86 are pending in this application. Claims 39-80 stand withdrawn from consideration. Claims 1, 7, 14, 19, 85 and 86 are the independent claims under consideration.

Claims 1 and 7 have been amended and Claims 85 and 86 have been added. No new matter has been added.

Applicant notes with appreciation the indication that Claims 14-24, 26, 28, 30, 32, 34, 36, 38, 83, and 84 have been allowed by the Examiner over the cited art.

Applicant further notes the indication that Claims 5 and 11 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. Because Applicant believes that independent Claims 1 and 7 are patentable, for the reasons discussed below, Claims 5 and 11 have not been rewritten in independent form at this time.

Claims 1, 3, 6, 7, 9, 12, 13, 25, 81, and 82 stand rejected under 35.U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,332,030 (Manjunath, et al.) and U.S. Patent No. 6,201,879 B1 (Bender, et al.). Applicant respectfully traverses this rejection for the reasons discussed below.

As recited in independent Claim 1, the present invention includes, *inter alia*, the feature of modulation of only the components of a subset consisting of only components in the

lowest frequency sub-band in order to insert a supplementary information item (S) into digital data. Applicant submits that Manjunath does not disclose or suggest at least this feature.

Manjunath, et al. discloses breaking down a signal into its frequency components, e.g., LL, LH, HL, and HH. However, that patent discloses using a maximum of two levels of decomposition. Therefore, it does not disclose or suggest using a number of levels dependent on image size. Further, that patent discloses both that high frequency components are likely to be modified by compression (col. 15, lines 59-61) and that changes in low-frequency sub-bands are more perceptible (col. 6, lines 30-31, and col. 15, lines 57-62). Therefore, Manjunath, et al. discloses that all sub-bands are used for embedding (Fig. 1 and col. 3, line 38) or that the mid frequencies of a DCT block are used (col. 15, line 62) or that an HH sub-band at the second decomposition level is used (called LL-HH, col. 21, line 5 and Fig. 26). However, that patent does not disclose or suggest at least the feature of modulation of only the components of the subset consisting of only the components in the lowest frequency sub-band, i.e., only components in the lowest frequency sub-band are used for embedding.

The other cited art is not understood to disclose or suggest at least the aforementioned feature and is not understood to remedy the deficiencies of Manjunath, et al.

Independent Claim 7 recites a similar feature and is believed patentable for similar reasons to those presented above regarding Claim 1.


The dependent claims incorporate every feature of the independent claims from which they depend, and those dependent claims are believed patentable for at least the same reasons as those independent claims, as well as for the additional features they recite.

New Claims 85 and 86 are believed patentable for reasons similar to Claims 1 and 7. In addition, Applicant submits that the cited art fails to disclose or suggest at least the feature of reinsertion of the modulated components into the lowest frequency sub-band, as recited in Claims 85 and 86. Support for that feature may be found in the original disclosure at least, for example, at page 26, lines 22-23 and in Figs. 7 and 8.

For the foregoing reasons, Applicant submits that this application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-mentioned Office Action, and an early Notice of Allowance are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our below-listed address.

Respectfully submitted,



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